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THE MARITIME MEDICAL NEWS

A MONTHLY JOURNAL DEVOTED TO MEDICINE & SURGERY

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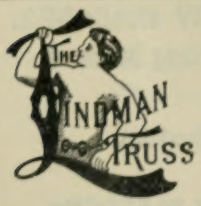

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THE
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VOL. XIX, *MAY, 1907*, No. 5.

The Toxaemia of Pregnancy. The toxæmia inducing the pernicious vomiting and the parenchymatous liver degeneration in pregnancy forms the subject for an article by W. M. Jordan, in the *Journal of the American Medical Association*, April 27, the toxæmia of eclampsia being only incidentally noticed, as it differs widely in its symptoms, pathology and prognosis from the above. While it is gen rally conceded that there is a toxin in the blood that is responsible for the morbid changes in the liver, little or nothing is known as to its nature or source; the liver changes themselves are similar to those that may occur under other toxic conditions, the differences being mainly in degree rather than in kind. They are probably induced through the abolition or impairment of the upbuilding functions of the liver cells, the formula being insufficient liver and toxæmia on the one hand, resulting in failure of the anabolic function, and autolysis on the other. The widespread destruction of liver cells does not ordinarily occur, as indicated by clinical symptoms, until after the uterus is emptied, the rapid breakdown then being due, Jordan thinks, to the extra task imposed on the already impaired liver by the excess of waste products from uterine involution. From a careful analysis of published reports of these cases, it would appear that the necrotic process in the liver attacks by preference the central and mid-zonal areas, though other parts may also be affected. Vomiting is a prominent symptom, and when occurring in the early months it dominates the picture so as to give a clinical type known as pernicious vomiting of pregnancy. It may then be confused with the benign type due to reflex or neurotic influences, but in the later months its significance is not so likely to be overlooked. Headache and other neuralgic pains are also common and epigastric pain, probably due to liver changes, is especially significant. Increas of salivary secretion is an important symptom in many bad cases. Air hunger, mental depression and œdema are toxæmic symptoms preceding the destructive processes in the liver. Those due to destruction of liver cells are coma and stupor, black vomit, bile in the urine, possibly icterus, convulsions (occasionally), failure of renal function and failure of circulation. Death usually follows these, though recovery may occur. The diagnosis rests mainly on the clinical symptoms, though an increased percentage of ammonia in the urine has been considered significant. Jordan considers palliative measures useless, and that radical removal of the cause without reference to the interests of the fœtus is the only alternative. Emptying of the uterus is as imperative as is operation in a case of recognized ectopic pregnancy before rupture. On account of the possible unfavourable effect of anæsthesia the non-operative induction of abortion

is preferable, other things being equal. In case of extreme urgency any obstetric operation that seems called for may of course be employed . Chloroform should never be used, and on account of the danger of general anæsthesia, Jordan suggests the use of spinal anæsthesia as worthy of favourable consideration. Nine cases are briefly reported.

Diagnosis of Early Pregnancy. Louis J. Ladinski, in an article contributed to the *Medical Record*, of April 13 claims it is always possible to make a positive diagnosis of pregnancy as early as the fifth or sixth week when intrauterine. The diagnosis is made by a single sign. This is the appearance of a spot of a peculiar softness and elasticity just above the junction of the body and cervix in the anterior wall of the uterus, in the fifth or sixth week. When the uterus is retroverted or retroflexed it appears in the posterior wall, and at the sixth or seventh week of pregnancy. The incomplete abortion or subinvolution this area of softening appears, but is much more doughy and less elastic. With a hard fibroid in the upper portion of the uterus the feeling is exactly that of pregnancy. The sign must be sought by bimanual palpation. Absence of this sign aids in making a positive diagnosis of extrauterine pregnancy by excluding uterine pregnancy. It is in all probability due to extreme vascularity of the uterine wall at the point where it is felt.

Mitral Stenosis and Pregnancy French and Hicks (*British Journal of Obstetrics and Gynaecology*) analyzed the obstetric histories of 300 women, over 20 of whom had mitral stenosis with or without other lesions. The cases were not selected but were taken consecutively from the records of Guy's Hospital. They found that—

1. Comparatively few are sterile.
2. They are not especially liable to abort.
3. The majority bear children well.
4. When heart failure develops in relation to pregnancy it is very often, not with the first pregnancy but after several pregnancies.
5. The treatment should be the same as for a non-pregnant patient with mitral stenosis.
6. It is not just absolutely to veto marriage in all women with mitral stenosis. The dogmatic "No" of G. Jellett and of Porak is unjustifiable. It is right that the physician should make clear to the contracting couple, or to their near relatives, the risk run. He should use his discretion, and distinguish between one case and another. The risk should not be minimized but it should not be exaggerated. Whether the woman marry or not ,it is likely that she will not reach old age. She should not have successive children rapidly. But if she has survived the age of twenty with good cardiac compensation, the likelihood that pregnancy will accelerate the time of heart failure does not seem to be so great as has been declared in text-books.

Accidental Haemorrhage. Wright, discussing the Diagnosis and Treatment of Accidental Hæmorrhage, in the *American Journal of Obstetrics*, summarizes as follows:

1. Making a diagnosis in many cases of concealed accidental hæmorrhage is generally difficult, sometimes impossible, before delivery.
2. The so-called important symptoms—anæmia and distension of the

uterus—are not present in a large proportion of such cases.

3. The serious condition in most cases is shock from traumatism, and not collapse from loss of blood.

4. The diagnosis of the combined internal and external accidental hæmorrhage is more readily made, but the amount and effect of the blood within the uterus are often difficult to ascertain.

5. Even in such cases shock from traumatism is sometimes the predominating element; on the other hand, collapse from loss of blood, whether retained within the uterus or flowing externally, is sometimes the important factor.

6. In all cases where shock from traumatism is the main conditon, or the predominating element, the most urgent requirement is proper treatment of such shock ,and not emptying the uterus.

7. In a large proportion of cases of the combined internal and external hæmorrhage, the introduction of the vaginal plug, with the application of an abdominal binder, appears to be a very safe and effectual plan of treatment.

8. In a small proportion of cases, especially during labour, puncture of the membrane is beneficial.

9. Any form of accouchement forcé which includes forcible dilitation of a rigid cervix, is never justifiable.

10. The best operative procedure would appear to be some form of vaginal section, but its field is limited and not accurately defined.

*

Statistics of Gonorrhoea. Erb (*Muenchener medizinische Wochenschrift*) found, from investigation of 2,000 of his male patients, that nearly one-half of them (48.5 per cent.) had had one or more attacks of gonorrhœa. In 84.7 per cent. of these patients the disease had been acquired between the ages of sixteen and twenty-five, in 11.4 per cent. Between twenty-six and thirty, in 3.2% between thirty-one and forty, and in 0.5 per cent when over that age. Investigation of four hundred wives of men who had had gonorrhœa some time before marriage showed that 375 (93.75 per cent.) were either healthy or were suffering from diseases not due to gonorrhœa, seventeen (4.25 per cent.) were suffering from diseases which were either certainly or most probably of gonorrhœal nature, while eight (2 per cent.) were suffering from diseases the gonorrhœal nature of which was uncertain or improbable. In regard to childbearing, ninety-four of the 375 unaffected wives had borne four or more children, sixty-nine had borne three, and eight-nine had born two. It should be borne in mind that many had been married but a few years, the number of children was normal, and would naturally be expected to increase in time. Of the diseased wives eleven had borne no children, ten had one, two had two, and one had three.

*

The Function of the Prefrontal Lobes. The specially psychic function of the prefrontal lobes is emphasized by A. Gordon, who sums up in the *Journal of the American Medical Association,* April 27, the principal symptoms due to its lesions, as admitted by the general consensus of authorities as follows: Mental hebetude, automatism, excitement and irritability, or else depression, disorientation and loss of power to concentrate attention. He particularly mentions the symptom called *moria* or *Wiltzelsucht* by German authors characterized by the humoristic spirit

shown in the patient's actions and speech. While this may occur with lesions of other parts of the brain, it is, he says, admitted by many writers to be more commonly observed with lesions of the prefontal lobe than with those of other portions of the cerebrum. He reports the history of a patient, who for years had been partially hemiplegic, but rational. About five days before his death, while sitting at the table, he became suddenly unconscious, and on emerging from this state, showed marked mental confusion, soon followed by a maniacal condition with disorientation, and marked euphoria. There were no additional paralytic symptoms, but the patient became comatose and died on the sixth day. The autopsy revealed an apparently recent hæmorrhage in the white substance of the prefrontal lobe.

*

Urine After Stovaine Anaesthesia. A. Schwarz finds, according to his article *Ventralblatt fur Chirurgie* of March 30, that the urine of patients who have been anæsthetized with stovaine in the spinal cord shows all the evidences of nephritis. Usually the changes can be seen in from three to four hours after the injection, but sometimes they do not appear until the second or third day. The albumin and casts disappear in mild cases in a few days, but Schwarz has found them as late as the eighth day. Permanent renal disturbance has not been observed.

*

Treatment of Haemoptysis G. A. Grace-Calvert contributes an article to the *Lancet*, of April 6, in which he advocates the use of amyl nitrite in hæmoptysis. He reports a series of twenty-two attacks of hæmoptysis in five patients. In all of them the bleeding ceased at once, or was markedly diminished after the inhalation of the fumes from a three minute capsule of amyl nitrite. The bleeding usually stops at once, though the patient may go on coughing up clotted blood. If the patient is excited or alarmed, or if the lungs be irritable, a hypodermic injection of morphia may be given. None of the other remedies usually recommended such as ergot or adrenalin, are of any great value. Calcium salts are useless in profuse hæmorrhage, because of the slowness of their action.

*

Observations of Arteriosclerosis. H. Newton Heineman, in an article which appeared in the *Medical Record* of April 27, says that arteriosclerosis before old age is a disease of exhaustion and excess. The disease is steadily increasing in frequency. Etiological factors are severe physical or mental labor, stimulants, age after forty-five years, gout, rheuma ism, general infections, syphilis, toxins, and external injuries to arteries. The pathology is that of sclerosis of the vessels, combined with calcareous degeneration in some cases. The princpal lesions are cardiac, renal, and splenic. There are distinct types: the specific, the senile and labour type ,the renal type, and the myocardial type. As to clinical history, three groups of symptoms predominate: anginose, myocardial, and neurasthenic. Gastrointestinal digestion fails, autointoxication an constipation ensue, myocardial signs and symptoms arise, with arythmia, tachycardia, angina, and dyspnœa, and albumin and casts in the urine. The cerebral type begins with vertigo and neurasthenic symptoms. The vaso-motor disturbances are important. Anæmia is frequent. Blood pressure is generally raised. The diagnosis

must be based on the clinical history pointing to an old infection, and aided by observations on pressure. Angina pectoris often repeated is an important symptom. Prognosis is made much better by appropriate treatment, life often being prolonged and made comfortable. Treatment consists of adjustment of mental and physical conditions, with diminished work and the best of hygiene. Proper exercise, cool rooms, restricted diet, and saline baths are the most important remedies. The diet avoids fluids with meals, decreases meats, and increases vegetables, discards sweets and starchy desserts, seasoning and stimulants. Milk diet at intervals is valuable in renal cases. Remedies to lessen fermentation and relieve constipation, iodides and nitrates are most useful.

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Acute Otitis Media. W. J. Leach contributes a paper on this subject to the *Journal of the American Medical Association,* of April 13, in which he describes acute middle ear disease, its symptoms, course and treatment. In case palliatives fail and bulging of the drum and pain increase after thirty-six hours treatment, he advises the immediate performance of myringotomy as lessening the danger of invasion of the mastoid cells, and after cleansing with peroxide of hydrogen and mopping out with dry cotton, filling the canal one-third full of boric acid and inserting a cotton plug. After the discharge has ceased he would use 10 per cent. ichthyol in liquid vaseline until the wound is healed, careful attention being given to nasal and pharyngeal conditions. The treatment should be carried on directly by the physician, and Leach emphasizes this as as essential. If intrusted to others it will not be well done. The prognosis of acute otitis media is good, he thinks, if the condition is promptly treated, but when the mastoid cells are involved the prognosis becomes serious . The way to success in otology is never to let acute otitis become chronic.

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Is Scarlet Fever a Streptococcus Disease. From a study of the facts of scarlet fever, L. Hektoen, in the *Journal American Medical Association,* April 6, thinks that we are justified in concluding: (1) That the predominant feature of the bacteriology of the throat in scarlet fever is the constant presence of large numbers of *Streptococcus pyogenes;* (2) that the overwhelming majority of the so-called complications and of the deaths in scarlet fever are due to an invasion of the tissues and the blood by this germ; and (3) that in scarlet fever ,even when mild, the organism gives evidence of systematic reaction to streptococci by variations in the streptococco-opsonic index and probably also by the formation of streptococco-agglutinins. In spite of all this and of the fact that many of the essential symptoms of scarlet fever can be explained by what we know of the pathogenic powers of the streptococcus, there are serious difficulties in accepting the streptococcal theory of the disorder. There is no analogy in known streptococcus infections with the lasting immunity conferred by even mild cases of scarlatina; there is the reported lack of evidence of streptococcic invasion in certain fulminating cases of scarlet fever; streptococci are scarce in the skin in this disease, notwithstanding the generally accepted infectiousness of the skin lesions; the longevity of the scarlatinal virus, of which there are many reported instances, is contrary to anything known of the streptococcus. The view, therefore, that the

germ of scarlatina is yet unknown and that the streptococcus is a concomitant or secondary invader, seems to Hektoen to harmonize better with the facts. We may infer that the throat conditions in scarlet fever are particularly favorable to the *Streptococcus pyogenes,* and the chief signifigance of the pure scarlatinal virus would seem to be to open the door, so to speak, to streptococci. The need for potent antistreptococcus remedies is as urgent as if it were a purely streptococcus disease. Especially in view of the fact that streptococci grow in virulence in the susceptible animal organism, it is our duty to guard against the transfer of especially virulent strains from patient to patient, by insuring adequate measures of isolation.

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The Diagnostic Value of Eosinophiles. Leonard Blumgart, (Medical Record, April 6), says that the practical value of the eosinophiles has been proven, especially in three groups of diseases, viz., certain diseases of the skin, the acute infectious diseases, and some of the parasite diseases, particularly those of the intestinal tract. In the hypoleucocytosis observed in typhoid fever, the extraordinary diminution of eosinophiles is observed. In most cases they disappear early in the disease. In doubtful cases the diagnosis may almost be made by the presence or absence of eosinophiles. This is due, according to Metchnikoff, to the inhibitory action of the typhoid toxin on the bone marrow. In forty cases in which 500-cell differential leucocyte counts were made at the German Hospital they were found diminished or absent. In cases in which they did not reappear relapses were to be expected. It is important to make a careful differential leucocyte count in typhoid fever, and to repeat it in the course of the disease. Disappearance of eosinophiles and leucopœnia goes far to establish a diagnosis of typhoid fever; normal or increased eosinophiles is a favorable sign, and no patient should be dismissed until they reappear. Two illustrative cases, one of trichinosis and one of intestinal parasites, are given in which there was increase of eosinophiles.

SUBURBAN HOUSE DRAINAGE.

By F. W. W. DOANE, City Engineer,
Halifax, N. S.

(Read before N. S. Public Health Association, Halifax, March 21st, 1907.)

HEALTH authorities, physicians, builders and occupiers of suburban and country residences not located within reach of sewers, find themselves confronted with a serious and all-important problem. The question is what method should be adopted by architects or householders to get rid of the liquid wastes from the household in a manner calculated to avoid at once all nuisance to sight or smell, all danger to health arising from the pollution of the soil, the water and the air, and all causes of contamination of water courses, whether flowing streams or ponds, lakes, estuaries and harbors. The problem is not at all a novel one, for nearly two thousand years ago Hippocrates discussed the same subject of the relation existing between health and soil, air and water; yet if one contemplates for a moment the numberless filth-reeking and disease-breeding privies and barbarous leeching cesspools which we still encounter everywhere and which apparently are accepted as necessary adjuncts to farm houses, summer residences, mechanics' dwellings, etc., one is justified in calling attention to the evil results of improper methods of sewage disposal and in discussing briefly the proper remedies.

If the human body is to be maintained in health and vigor it is essential to dispose of all those matters eliminated from the animal system whether in health or disease as well as all other animal and vegetable refuse in the vicinity of inhabited buildings as speedily as possible before decay begins, as in the early stages of putrefaction the matters evolved are highly injurious to health and dangerous to life. Fresh sewage is generally comparatively free from smell, but when it has lain about for any length of time it often becomes exceedingly offensive. In other words, it begins to decompose.

The most simple and most objectionable form of disposal frequently found in country districts and not unknown in the city is by an open ditch or trench. No sane man in these enlightened and progressive times professes to believe that his health is safe in the vicinity of such a nuisance and disease breeder. Sometimes these trenches are walled up and covered over, shutting out the rain, light and air, and cutting off all purifying agencies without any resultant benefit except that it is out of sight.

Cesspits are scarcely less objectionable. Where for financial or other weighty reasons, their immediate abolition is impractable, they should be made large enough to contain all the drainage emptied into them between periodical cleanings.

These cleanings should be made frequently and means of deodorization should be provided when the pit is emptied. Sulphate of iron seems well adapted for use with cesspits. They should be placed as far as possible from any dwelling, cut off by a disconnecting trap, and properly ventilated with inlet and outlet shafts provided with suitable cowls.

House sewage is made up of excremental matter, bedroom and kit-

chen slops and soapsuds. This sewage contains the organisms necessary for its own destruction, and under favorable conditions these may be so cultivated as to effect the purpose. The all-important work of breaking down the polluting matter of sewage and converting it into the various products of decomposition is performed by myriads of unpaid scavengers whose existence was not even suspected until late in the seventeenth century. They are so tiny that it required the powerful microscopes of the present day to make them visible at all. They are known as "bacteria" or more familiarly as "microbes."

The workshop of bacteria is found everywhere. Some live, move and have their being in the upper layers of the soil. The droppings of animals are for the most part purified by the bacteria on the surface of the earth, and this is aimed at in a sewage farm.

The bacteriological process of sewage purification may be classified in two systems, viz: The septic tank and the open bacteria bed system. It is proposed in this paper to explain the action of the septic tank.

The septic tank system is so called because the purification of the sewage is begun by a process of putrefaction. It is a process of removing most of the suspended organic matter, and some which is in solution and giving an effluent which, although not chemically pure, is inoffensive to the sight or smell, and is pure enough to be turned into large streams or bodies of pure water without doing any appreciable harm. This system differs from the other processes in that it attempts to bring an entirely new and different class of bacteria into operation—the anærobic. Anærobic bacteria live without air—that is without free oxygen. Exposure to air kills the anærobies, and all bacteria are destroyed if allowed to remain too long in contact with their own products. In the absence of water, or at least moisture, they are unable to multiply and remain dormant. The work that bacteria do in the purification of sewage is to oxydize the foul matters of which it is partly composed.

The septic tank itself is merely a receptacle designed to favor the multiplication of these micro-organisms and bring the whole of the sewage under their influence.

The sewage is turned without any screening or preliminary treatment into the septic tank. The incoming sewage is delivered below the water level. Th object of this is threefold: In the first place, it avoids disturbing the upper and lower portion of the contents of the tank, and especially the scum, which will be referred to again presently; in the second place, no air can make its way down with the sewage; and lastly, he gases from the tank cannot escape back into the drain.

On etnering the still water of the tank the solids suspended in the sewage are to a great extent disengaged, going either to the bottom or to the surface according to their specific gravity. Soon, however, a fermentation of the deposited solids takes place and a large volume of gaseous products is evolved. In the absence of light and air the organisms originally present in the sewage increase enormously and rapidly attack all the organic matter. By their action the more complex organic substances are converted into simpler compounds, and these in turn are reduced to still simpler forms, the ultimate products of the decomposition in the tank being

water ammonia and carbonic acid and other gases. Other nitrogenous compounds may also be present, but they will be soluble in a slightly alkiline solution—a condition which obtains with every normal sewage.

The evolution of gas gradually increases until sufficient has accumulated in the deposit to raise large portions of the latter to the surface of the liquid where part of them remain supported by gas. In open tanks this matter exposed to the air and sun becomes dried on the surface and hardened. It accumulates at first on the windward side of the tank and gradually spreads over the whole surface. Corks, matches and the lighter matters form part of the mass which during the hot summer months frequently attains in parts to a thickness of over one foot. During the winter months and especially immediately after periods of severe frost, this surface layer shows a decided tendency to become thinner.

All solid matter of the sewage is arrested, and rags, paper and the like all disappear. Each molecule of an organic compound consists of a number of different atoms. These atoms are never thrown together haphazard, but are always grouped in some definite order, according to certain well-understood laws Consequently, it is very difficult to take away any single atom from a molecule without completely breaking down the molecule itself. The abstraction of two or three atoms from a molecule generally breaks the substance down into a number of simpler bodies altogether unlike the original compound.

It must not be supposed that the fermentation and decomposition by which the solid matter is eventually broken down takes place instantaneously; on the contrary, it may occupy many days or even weeks. Further, it takes time to cultivate the colony of bacteria necessary to perform the work. These bacteria are specialists, each having as a rule some definite work to perform. One squad of microbes attacks a piece of solid matter. The change they bring about is perhaps imperceptible. Another group takes up the work where they leave off; and so, little by little, the solid particle crumbles away and disappears.

The effluent pases off at practically the same level as the sewage goes in. The tank therefore requires no fall. It should hold one day's average flow so that the sewage takes on an average about twenty-four hours to pass through it. That is to say, the sewage which goes in at ten o'clock this morning will pass out about ten o'clock to-morrow morning. The tanks are made long and narrow, the rate of flow through the tank being exceedingly slow and practically imperceptible; the solid matter present in the sewage has plenty of time to settle or to rise to the surface, according as it is heavier or lighter than the water in the tank.

Having arrested the solid matter the clear water is drawn off between the scum on the surface and the heavy deposit which lies at the bottom of the tank. If there were a single opening the effluent would rush out in a strong current which would be liable to drag down floating matter from the surface. To avoid this a cast iron pipe is carried across the whole width of the tank about fifteen inches below the surface, and in the lower side of this pipe there is a continuous slot or opening about half an inch wide. Through this opening the effluent passes off in a thin sheet the whole width of the tank, with the least possible disturbance of the contents of the latter.

Among the final products of decomposition are marsh gas and

free oxygen, both of which are highly inflammable. The flame from these gases, though a very hot one, is not luminous; but it becomes so by aid of an incandescent mantle and has been used as a source of light.

There is one function of sewage disposal works such as the septic tank which must not be overlooked. Sewage not only consists of foul matters which become offensive on decomposition, but it is also liable to contain the germs of various diseases. It is well known that persons suffering from certain diseases give off germs or organisms which are capable of communicating the same disease to others. These germs multiply at an exceedingly rapid rate, and if they were not held in check in some way the earth would probably have been depopulated long ago. Fortunately for the human race, nature provides a force capable of combatting and destroying these seeds of death. Those same bacteria referred to as bringing about the decomposition of sewage matter are the sworn foes of disease germs, and it is by their means that the ravages of disease are kept within bounds. In the septic tank any disease germs are systematically exposed to the attack of their deadly enemies.

For detached houses without public water supply the solid excrements may be taken care of by adopting either an earth or ash closet in place of the usual privy still so much in vogue, although long ago unanimously condemned by practical sanitarians. In the application of the dry earth system sufficient dried earth, garden loam, or sometimes coal ashes are mixed with the excreta to absorb all foulness, to keep down all odor and to prevent putrefaction. Such earth closets work quite satisfactorily with very little attention and form a simple and cleanly substitute for the privy nuisance. They are manufactured in various grades, and with more or less complicated mechanism. As a rule, the simpler the arrangement the better. If placed out of doors, the earth closet should not be located too far away from the house. The outer structure should be strong and substantial with a good roof to protect it against rain or dampness. It should be well lighted, well ventilated, not too much exposed to the rays of the sun, and preferably plastered on the inside as a protection in cold weather. A carefully kept dry walk should lead to it from the house, and it is better to have the walk and the closet shed screened from view and from the prevailing winds. The excreta should be received in a movable, well tarred wooden box, or else in a galvanized iron pail, not too large and of such shape and construction that it can easily be handled. The box or pail should fit close up under the seat, and each time the closet is used ashes or dry earth should be used as deodorizers, being thrown down either by a hand-scoop or by a mechanical apparatus. There can be scarcely any doubt about the economy, efficiency and convenience of such apparatus in the case of small houses. The property of dry earth, of not only deodorizing, but also absorbing, and rendering harmless, excreta of animals has long been well known. Some difficulty has been experienced in cases where the earth was kept too damp. According to recent observations a much smaller quantity of earth is required for earth closets if the separation of the liquids and solids is at once effected. This may be accomplished by intercepting the urine under the seat and removing it by a waste pipe. The closet is thereby more easily kept free from smell, and if properly used and well taken care of, it can be located in an extension of a dwelling

without becoming a nuisance. The dry earth manure ought to be removed at frequent intervals, and in summer time it can be used and dug under the soil in the garden attached to the cottage.

Where a public water supply is used, and sufficient land is available, in the opinion of the writer the septic tank affords the best means of disposal. If the tank must be so far from the house tht the sewage will cool before reaching the tank there is danger that the fats, soap and other kitchen and wash room drainage will solidify in the pipes and form a tough coating which will collect the other matter.

For purifying the drainings from kitchens, several forms of grease traps are used. These cause the fatty matter to be separated by cooling, the grease being retained floating on the water in the trap. They are usually placed below the sinks and intercept not only the grease, but all the heavy substances which enter them. In order that the layer of fat on the top of the water may not be agitated too greatly, the drain from the sink should enter from the side and not at the top.

These grease traps must be cleaned from time to time, while if everything that enters the house drain can be delivered at the septic tank this difficulty is overcome. Unless sand and similar solids reach the tank it is unnecessary to clean it as it is automatic. If it were opened after being a year in use, there would be a thick scum on the top and a heavy deposit at the bottom, but the removal of these would stop the working of the tiny army until a new army could be mustered.

One important feature of such a system yet remains to be dealt with. The effluent must be disposed of. The tank clarifies the liquid, but does not purify it. While a large per centage of the impurities are removed the effluent still contains objectable matter in solution. It will not be offensive, however, either to the eye or nostril. It may be flowed over the land in garden or orchard or applied to the soil through tiles laid under the surface.

For the latter, more or less space will be required according as the ground is absorptive or non-absorptive. Agricultural drain tiles should be laid at a depth of about one foot. The tiles should be two-inch, made in one-foot lengths. The shallow trenches for these tiles should be carefully graded and first laid with "gutter tiles," forming a channel in which to lay the round tiles. They should be laid with one-quarter inch spaces between their ends and these open joints covered with "caps" or curved plates of earthenware to exclude earth. The curve of the gutters and of the caps must be greater than that of the outside of the tiles so that the joints are free to discharge the liquid for nearly the whole circumference. It is advisable to lay the tiles in broken stone or coarse gravel to a little above the caps. The tiles will then empty before it is possible for the discharge to freeze. The broken stone or gravel will also preserve the tile from injury by the heaving action of the frost.

Where the effluent must be discharged on or into the land, a meter should be installed on the water supply pipe in order to discourage the unnecessary use of water.

While it must not be understood that the system outlined will be a panacea for all the evils incident to country house drainage, yet in the opinion of the writer it will be a decided improvement on prevailing methods without entailing prohibitive expense.

RECIPROCAL REGISTRATION WITH GREAT BRITIAN.

(The following is an excerpt from an article which appeared in the Halifax daily papers on the 23rd of April. We reproduce it because we feel it to be of unusual interest to the medical profession—not in Nova Scotia alone, but throughout the Dominion. The name of the author does not appear, but we have every reason to believe in the authenticity of the subject-matter. We feel that mention should be made in this connection of the untiring efforts of Dr. A. W. H. Lindsay to bring about the desired reciprocity with the motherland. He has worked most energetically to secure this privilege, and to him more than to any other man belongs the credit for having successfully brought it about. The Diploma referred to in the opening sentence is that of the Provincial Medical Board of Nova Scotia.)

IT will be a matter of great interest to many to know that all holders of this Diploma and also graduates of Medicine of Dalhousie University and of the Halifax Medical College who are registered in Nova Scotia will be entitled without further examination, to registration in Great Britain in what is known as the Colonial Register, by which they will have opened to them all the privileges with regard to medical practice in Britain or the army service equally with those holding British qualifications and enregistered in the regular "Home" Register. Previous to 1886, no person could register in Britain until he first secured a regular British qualification from one of the "Home" colleges or universities. In that year an Act was passed making provision for the registration of Colonial and Foreign Degrees, and colleges in good standing in Australia, New Zealand and India were able almost at once to secure recognition of their Diplomas in Britain; but owing to the peculiar wording of a defining clause at the end of the Imperial Act of 1886, none of the Universities or Medical Institutions in any of the provinces of Canada were able to secure these privileges. The clause referred to, in defining British possessions meaning thereby parts of Her Majesty's Dominions exclusive of the United Kingdom—specified that "when parts of such dominions are under both a Central and Local Legislature, all parts under one Legislature are for the purpose of this definition deemed to be one British Possession."

This meant of course that as regards Canada, the Mother Country could enter into reciprocal arrangements only with the Federal Government. But the difficulty was and is that the British North America Act expressly provided that education shall be entirely under the control of the Provincial, and not the Federal Government, and so the Provinces of the Dominion of Canada were unable to obtain what the separate Australian Colonies secured very shortly after the passage of the Act.

It being impractable to amend the British North America Act, an attempt was made by what is known as the "Roddick Bill" to circumvent the Act in some way so far as medical education is concerned, but this effort has not succeeded. It was in fact from the first recognized by some, at least in Nova Scotia, that the proper remedy lay in another direction. It being impossible to have the British North America Act amended, why not do the simpler thing? Why not have the Imperial Act of 1886 amended. It remained, however, for General J. W. Laurie, so well known for many years

in this province, and still maintaining his country residence and estate at Oakfield, who until very recently held a seat in the British House of Commons, to secure, before he retired, the passage of a Bill, known as the "Medical Act, 1886, Amendment Act, 1905," (or the "Laurie Act"), which dealt with the other end of the difficulty and removed the restriction involved in the defining clause above referred to, making it to read, "For the purpose of the Medical Act, 1886, where any part of a British possession is under a Central and also under a Local Legislature, His Majesty may, if he thinks fit, by order in Council, declare that the part which is under the Local Legislature shall be deemed a separate British Possession."

It now becomes possible for each province to enter into negotiations with the Mother Country and at the request of the Provincial Medical Board of Nova Scotia, application was made by the Provincial Government to the Privy Council U. K., to have Nova Scotia declared a British possession to which the Act of 1886 applies, and on May 11, 1906, an Order in Council was passed declaring that the Province of Nova Scotia shall be deemed to be a separate British possession, and that the second part of the Medical Act, 1886, shall be deemed to apply to the said Province of Nova Scotia.

It was now open to the medical licensing and degree conferring bodies in Nova Scotia to apply for recognition of their examinations and qualifications, and the outcome of such applications made to the General Medical Council of Great Britain, by the Provincial Medical Board, Dalhousie University and the Halifax Medical College, is indicated in the following extracts from communications from the Executive Committe of the Council which have recently been received by the Registrar of the Provincial Medical Board.

"(I.) The Executive Committee have agreed that any person who holds

"(1) The Diploma or License in medicine, surgery and mid-wifery granted after examination by the Provincial Medical Board of Nova Scotia together with the license to practice in that Province; or

"(2) The Degrees of Doctor of Medicine and Master of Surgery of the Dalhousie University, together with the aforesaid license to practice; or

"(3) The Degrees of Doctor of Medicine and Master of Surgery of the Halifax Medical College, together with the aforesaid license to practice, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886."

"(II.) The Executive Committee propose by the end of 1911 to reconsider the conditions under which the above mentioned Medical Diplomas are granted, in the expectation that at that time the curriculum shall have been extended to five academic years."

In accordance with the above resolutions graduates of other colleges who are registered in Nova Scotia, but have not passed the Board's examinations as required by the Nova Scotia Medical Act, Chapter 103, R. S., 1900, will not be able to register in Britain at all, and according to a further ruling of the Committee, even, "graduates of other colleges who hold the Board's Diploma will be able to register in Britain only in virtue of the latter, their other degrees, not being recognized, would not be registrable as additional quali-

fications." For instance, as things now stand, a person who has graduated say, at McGill, Toronto, Bellvue, or Harvard, and who subsequently passes the examination for the Diploma of the Provincial Medical Board, and becomes registered in Nova Scotia, may then register in Britain, but he can only do so as a Licentiate of the Nova Scotia Board, he cannot register his diploma from McGill or other colleges, until Quebec, Ontario, etc., of the Provinces of the Dominion (or in the case of the American Colleges, the States of the Union) are like Nova Scotia severally declared British possessions (or foreign countries) to which the Medical Act of 1886 applies, and subsequently thereto the individual colleges have secured recognition of their courses, examination and qualifications by the General Medical Council of Great Britain.

But there is still another possibility involved in this movement, and it will be to many a matter of still closer interest. Not only is it open for the individual provinces to secure reciprocal arrangements between each and Great Britain, but it is a very easy step to make use of this Colonial Registration as the basis for interprovincial reciprocity in Canada. It seems apparently impossible for a Dominion Medical qualification to be established which could be recognized all over Canada as was one object of the Roddick Bill, neither have the several provinces been able, although the matter has been under consideration for several years, to agree among themselves to any common standard of qualifications or requirements, so that a person who had satisfied such requirements and been registered in one province could if he wished remove to another province without being compelled to pass a series of examinations, etc. The British Medical Council, however, under the Act of 1886, have imposed upon them the rather onerous duties of searching into the various medical curricula and qualifications required in each and all of the provinces, and all that it is necessary for the Canadian Boards or Councils to do is to recognize at least all Canadian qualifications that have been placed on the Colonial List by the General Medical Council. But indeed why limit recognition to Canadian qualifications? Why should the Canadian Boards or Councils hesitate to recognize all qualifications approved by the General Medical Council of Britain?

There is no doubt that the very open manner in which Nova Scotia has always received and admitted to practice persons holding British qualifications had its effect in securing reciprocal recognition for our provincial qualifications. At the same time the thanks of the colleges and of the medical profession in Nova Scotia are also due to Dr. McAllister, President of the General Medical Council, for the valuable assistance and co-operation. But above all, the institutions and profession of the Dominion are under deep obligations to General Laurie, for it was only through his desire to be of service to Canadians and by his persistent efforts, that the Bill with which his name is associated, was passed through the British House of Commons, which Bill made it possible for the medical profession in Canada to secure the advantages which the provisions of the Medical Act of 1886 were intended to afford, but which for twenty years have been practically a dead letter.

TUBERCULOSIS—DOMICILE AND WORKSHOP

By G. E. DeWITT, M. D.
Health Officer, Wolfville, N. S.
(Read before N. S. Public Health Association.)

A QUARTER of a century has elapsed since Kock discovered and demonstrated to the world the tubercle bacillus, the cause of pulmonary phthisis. Since then much has been said and done to control the conditions favorable to the propagation of the disease. While I cannot and do not, expect to introduce any new theory that will more successfully combat tuberculosis, I do wish to emphasize a few principles, which, if practised and carried out, will materially assist in checking and stamping out the malady.

Tuberculosis or pulmonary consumption has appropriately been termed a house disease, a disease of civilization. Why? Because civilization has brought in its train more luxurious habits of life, dissipations and indulgencies ; more carbonic acid and dust and less oxygen in houses, halls, churches and workshops, than man in his more primitive condition had to encounter and contend against. The more civilized we think we are, the more we have constricted the normal rythmic breathing from infantile life to old age, reducing and restricting the normal lung capacity; making a suitable and fertile soil for the propagation and development of the tubercle bacillus. But must we go back to barbaric and savage life, that we may again arrive at the primitive condition formerly lived, which made the system immune? Not if we bend our energies more intensely in observing, defending and enforcing the sanitary knowledge we now possess. While the disease is no respector of persons, we find that the house worker—according to sanatoria reports, far outnumbers any other class, while the factory hands and other inside workers rank next. While the householder and housewife are slowly learning that the modern house with its grateless flues, its steam and furnace heat, its dry air, drying the particles of dust, which latter hold the germs of disease and which irritate the mucous membrane of the mouth, nose, throat and lungs, making a more susceptible soil for the lodgment of the disease germ; yet the rank and file are learning slowly.

While the Provincial Health Officer has in his annual reports faithfully and skillfully depicted and described the conditions which favor the propagation of tuberculosis and other diseases, yet the majority never see them, and many who do, never heed them; which shows the necessity of a closer contact and touch with the people to disseminate a more direct knowledge which will impress them with the fundamental principles necessary to combat the disease.

To be more specfic let us note a custom which has prevailed in our vaunted and boasted civilization, which has done much to nurse, develope and propagate the bacillus of consumption, I refer to restricted rythmic breathing in infancy and childhood, and in adult life also. I have learned from very good authority that in India, tuberculosis is comparatively rare, a country boasting of 400,000,000 of people ; a land of which missionaries tell of degradation and servitude, where we

would naturally look for the prevalence of the dread disese. The great law giver of the Hindus taught that he who only half breathes, only half lives. This immutable truth was made part of the Oriental religion, and to this day deep breathing and nerve energizing form a part of the daily religious observance of every devout Hindu. Their daily early morning sun worship was instituted at the beginning of their history in order that health culture might become a daily habit.

Watch the breathing of the new born child before its anatomy is restricted with bands and bandages, depriving nature of its rightful and true province, causing the child to use about one half of its normal lung capacity. What travesty upon our civilization and an abortion of justice to the human race, has modern custom and so-called civilization accomplished.

With all of our boasted Christianity, culture, science, progress and civilization, let us pause and take a lesson from the downtrodden race we seek to civilize and Christionize. For the last two decades we pretend that we have gotten at the root of the cause, and found the panacea for this decimator of the human race, when we laud fresh air, isolation in sanatoria, and stuffing the system with the proteids and hydrocarbons. While these agencies are necessary and appropriate when discretely used for the cure and prevention of tuberculosis, much of our time and effort go for naught, if we neglect to teach and put into practice full lung inhalation and expansion from the moment the child is born. The practice of preventive medicine rather than the curing of disease has come to stay, and when we allow the nurse or mother to restrict the breathing of the infant, depriving the lungs of their elasticity, the natural rythmic breathing of the diaphragm, the movement to all of the internal organs, which a normal and unrestricted inhalation produces,—the complete aeration of the blood, we are laying the foundation for the wandering bacillus as sure as night follows day. There are two sources of life, food and air; breath controls them both. We have commenced too late to treat the tuberculous adult, whose infancy and childhood has been deprived of the care and teaching which develops full lung capacity, by encouraging and practising full and normal respiratory movements. Let the gospel of natural and unrestricted and rythmic breathing from infantile life be proclaimed from the housetops. Let the denunciation against tight lacing or any contrivance that restricts the normal movements of the chest walls, the expansion of the lungs and the movement of the muscles of the abdomen, be as strong and condemnatory as the anathemas against the excesses of alcohol or any wickedness, until the modern Christianized and so-called civilized man or woman hold their heads in shame, because of this perversion and miscarriage of nature's laws, which have in our modern civilization been great factors in nursing the seeds of tuberculosis, and indirectly but, surely, filling premature graves.

Isolation.

Isolation of advanced tuberculous cases is another means of prevention which in this province has not received the attention it should. While in this country an effort has been made to care for tuberculous

patients in a sanatorium,the sanatorium can only take in incipient cases, or cases that are in such a condition as to assure a reasonable guarantee of cure. Tuberculosis will never be stamped out until the more advanced and dangerous cases are isolated. If we would materially suppress tuberculosis we can only do it by adopting the procedure which is adopted for the prevention of all other serious infectious diseases. We ought, I think, to insist upon public notification of such cases as particularly come under the dangerous class. I know that the question immediately arises, "What shall be done with such cases after notification has been given?" We cannot bring them all into hospitals. If we could, I think we would acknowledge that the disease would soon be reduced to a minimum.

Hospital accommodation for all, we know, is practically impossible, but I think that we are not living up to and acting upon the knowledge we have, when we do not impress upon the people and the government the necessity of making provision for the isolation, for at least a proportion of the dangerous cases of tuberculosis, from among the poorer classes. It is in the last stages that the disease is most contagious and dangerous. Until the government and municipalities can provide for the dangerous cases of phthisis, a closer and more vital touch must be had with the poorer classes in tenements and workshops, than has heretofore obtained.

A few days ago my atention was called to the case of a girl who had been at service, who had developed tuberculosis in the apices of both lungs. She had neither friends or relatives to whom she could apply for assistance. The girl was still in a fair condition of health and able to render service; but when it became known that she was afflicted with the disease, the people were afraid to employ her. She had no means of her own and consequently found herself in the position of the one who was between the enemy of the human race and the deep sea.

Thus far in the treatment of tuberculosis the doctor has proven himself a skillful nurse. He has, as far as he could, isolated the consumptive; he has fed him with good food and fresh air; he has been particular to destroy the sputum so as to prevent the expectorated bacilli from again invading the host, or finding in another a repository for the development and growth of the bacteria. Until the doctor is aided and abetted by the government and the people to put into practice and force such measures as he knows and is convinced are positively necessary to effectually combat the disease, he will remain nurse-in-chief and a sort of medical figure-head in this province, because of the need of authority to do at the right and opportune time the essential things to check and control it.

Marriage of Tuberculous People.

Another duty binding upon the medical profession is the denouncement of marriage of the tuberculous. My experience has been that the marriage of those having tuberculosis, whether male or female, has hastened the terminaton of the disease; particularly has this been the case in the primipara. During gestation there has been in all cases a marked improvement as if the bacilli were inert or dormant during that period, but upon parturition, sometimes in a few weeks, at most in a few years ,the disease has terminated the life of the mother. If the medical

mind of this province is convinced that marriage hastens the ravages of tuberculosis in the tuberculous person, as well as having a susceptible progeny, it is certainly incumbent upon the profession to inform the people of it, and warn them of the consequences. Luther Burbank, the wizard of plant life, says "if mankind would seriously devote itself to its own physical regeneration, the human race would not only be freed from disease, but most forms of crime would be eliminated."

Medical Inspection of Schools.

Another and effectual move in the campaign against tuberculosis will be the medical inspection of schools. The gathering together daily of from one to two hundred children from 6 to 7 hours, five days of the week, without an expert knowledge of their physical condition, is not in keeping with the advanced and scientific thought of the day. Where there is no medical inspection of schools, the responsibility falls upon the teacher. This responsibility calls for a greater exercise of independence and a judgment of medical knowledge than can be reasonably looked for. The teacher sees that exclusion from school counts against school attendance, and consequently the curtailment or loss of the government grant. The medical inspector would have one of the best chances to detect incipient tuberculosis in the pupils as well as to detect the disease in its more advanced stage. While the teacher might be able to detect mumps and whooping cough, and possibly suspect scarlet fever and measles, a case of incipient tuberculosis would be overlooked, and perhaps a case of a more advanced type tolerated in the school.

As long as the broad avenue remains open and unguarded by those qualified to detect incipient tuberculosis, so long will needs of the effort now made to stamp out tuberculosis be futile and uanvailing.

Sick Foreigners.

A notable and regrettable fact is that many tuberculous foreigners have been allowed to land on our shores. Many of the people who have came from the British Isles and other European Countries have had in them the seeds of tuberculosis, and while they have brought this calamity they have brought abject poverty as well. In many instances the history has shown that they had been advised to come to Canada, because of the exhilirating and bracing climate being particularly beneficial to the arrest and cure of pulmonary diseases.

The last year's report of the Toronto Free Hospital for consumption shows that fifty per cent. of the cases treated there have been foreigners. This undue proportion of tuberculous foreigners in our hospitals of late, is, I have no doubt, due to the indiscriminate and unchecked measures adopted to induce foreigners to come to this country.

While ways and means are being devised and money spent in this country to arrest and cure tuberculosis, we will fail far short of the object, unless a stricter and more watchful surveillance is adopted by the government to check this menace to the health of the people. It is the duty of the profession to speak out, with no uncertain sound to the Dominion government, to see to it that in the effort put forth and exercised in inducing foreigners to settle in Canada, that any showing manifestations of the disease shall be prohibited from coming to this country under the guise of laborers. Paid commission-

ers have, and are going to England whose province it is to get as many as possible to come over and make their home in this fair land. While this is done, it is certainly incumbent upon the government to see to it that not only trachoma, the exanthemata and infectious diseases in general, be prohibited, but tuberculosis in any of its stages also, that we may more effectually close the doors that produce the disease. The good we have done and the good we are doing to lessen and check the spread of tuberculosis is very much discounted when such avenues are left open and unguarded. England prohibits cattle that show any signs of disease from finding access to her markets—and rightly so—but Canadians tolerate the importation of tuberculosis which materially assists in the invasion of our homes by the fell destroyer.

A Gilt-Edge Investment.

Dr. Ravenel, of the Phipps Institute at Philadelphia, has stated that the cost to the United States annually, because of the loss that country experiences from the effects of tuberculosis, amounts to three hundred and thirty millions of dollars. Computing the United States to have a population of 88,000,000, Nova Scotia half a million of people; allowing the annual loss in the same proportion to this province, the amount would reach one million, eight hundred and seventy-five thousand dollars. If this be true, and we have yet to learn that it is not, it would be what some people term a "gilt-edged investment" to the province, for every municipality in the country to each support a hospital or sanatorium for the accommodation of their advanced cases of tuberculosis.

Disinfection of Rooms.

May I venture to say that another dereliction of duty on the part of the authorities is in overlooking the disinfection of rooms occupied by persons in the advanced stages of phthisis. My custom has been to disinfect all rooms, clothing and bedding vacated by the decease of tuberculous patients, first advising the proprietor of the house of the necessity of taking the precaution, and then with the assistance of the Health Inspector to see that it is thoroughly done.

If pulmonary tuberculosis is a contagious disease and contributes more victims to the reaper than any other infectious disease or as many as all of them combined, why not make it imperative on the part of the people to use such means as are required by the statute in combatting and killing the bacteria of small-pox, diphtheria and scarlet fever? Why not prohibit the occupancy of rooms where tuberculous patients have lived and died until they are thoroughly disinfecte and cleansed. This country has yet to get a move on, if it will live up to the knowledge the medical profession considers necessary to combat tuberculosis. The Provincial Health Officers nor the Municipal Boards of Health cannot do it without the aid and sanction of the government. The Municipal Boards need educating and arousing to the importance of doing more to lessen and wipe out this scourge.

Every incorporated town in the province should have a free dispensary where the medical men of the town could alternately come into contact with the poor, who would only be too glad to avail themselves of the privilege. As it is, the medical men look after the poor in a way and with but little or no compensation. At a dispensary the physicians

of the town would willingly render their services free of charge. Incipient and advanced cases of tuberculosis could be regularly traced, and the proper measures adopted, before it became too late, and the advanced cases cared for and guarded against, so that they might not be a means of contagion and a menace to the health of the community. The cost of providing two or three rooms and free medicine would be but a trifle in comparison to the cost the towns now sustain from the loss of the comparatively unchecked malady.

The inoperative law upon he statutes of the province, regarding the appointment of factory inspectors is not in keeping with the sanitary reform, or in harmony with the scientific thought and research which has revealed the necessity of the practice of preventive medicine. The practice of preventive medicine, rather than the curing of the disease is the need and demand of the hour. The government can materially assist in the needed reform by complying with the Act in appointing qualified inspectors, whose duty it will be to exercise a supervision over the men, women and children who toil in these places.

Insufficient ventilation, overwork, the reckless distribution of the sputum, the inhalation of dust, and child labor in the workshops and factories, are the seed-beds of tuberculosis, as well as other diseases, and while this inlet to the broad road for the propagation of tuberculosis is unguarded, the hands of those who are endeavouring to promote sanitary reform and reduce suffering and mortality from tuberculosis in this country are made weaker and less effective,—if the sympathetic pronouncement of the profession be correc that the tubercle bacillus is contagious and deadly in its nature; if it be true that our own modern civilization has retricted the breathing and reduced the normal expansion of the lungs; if true that in the advanced cases of tuberculosis lies the greatest danger, and we make no effort to isolate them; if it be true that thousands of tuberculous cases are allowed to come into the country without any statuary provision to prevent them; if it be true that disinfection properly applied kills and destroys the pathogenic germ of infectious diseases, and the government leave it to the will of the people to say whether the rooms of phthisical cases shall be fumigated or not; or landlords may allow, if they choose, tenants to move into houses which have been occupied by those suffering with pulmonary tuberculosis; if it be a fact that the children in the public schools are a source of infection, and that no expert assistance is available to detect and prevent the development of tuberculosis or other infectious diseases in the schools.

Although we have done something in the campaign in combatting tuberculosis, we are yet living in a "fool's paradise," while we have left undone many things we ought to have done to render our work more effective.

THE TUBERCULO OPSONIC INDEX
IN LOCALIZED TUBERCULOUS LESIONS.

By W. R. M. KELLOGG, M. D.
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STUDIES in immunity have ever lacked definiteness. So it is with a keen sense of gratification that we consider the brilliant and illuminating researches of Wright and his pupils. While these investigators have been able to lay down some general rules which seem to be applicable to the study of the action and effect of practically all bacterial flora, it is to-day only in regard to the tubercle bacillus that I would direct your attention. Since Ehrlich and his school have observed phenomena which have seemed to support his "side chain theory," as a working hypothesis, we have been overcome, so to speak, by the contemplation of uniceptors, amboceptors, receptors, immune bodies, the whole host of complements, and the apparently endless interrelations between these various elements in one of the most brilliant conceptions of the subject of immunity which has ever been advanced. But no one has ever seen a side chain, and so it is almost with relief that we turn to the work of Wright, which seems to afford us a definite, tangible method of measuring, by microscope findings the condition of a patient's blood, when considering his relation to an invading micro-organism.

Wright designates as opsonins those substances in the serum of human beings which directly affect phagocytosis. Opsonin is derived from the word opsono, which means "I cater to," "I serve up." By a series of ingenious experiments, these substances in serum have apparently been shown to render bacteria more assimilable or acceptable to the phagocytic cells. The serum does not seem to affect the corpuscles but to affect the bacteria, and, after changing them in some manner, they are then enveloped by the phagocytes.

The experiments of Wright and his associates seem to indicate that these protective substances are in the blood serum of all persons, and that they are vitally essential to phagocytosis, and to a successful resistance of the organism of bacterial invasion.

A theoretical discussion of this subject would lead us far afield and so it is my purpose to avoid a technical discussion of the matter, and I shall endeavor merely to call your attention to a few practical points having a bearing upon the diagnosis and treatment of localized tuberculous lesions. The whole subject has been well gone over in the August number of the *American Journal of the Medical Sciences.*

Wright has found that the opsonic content of the blood of a person suffering from a local tuberculous focus, without constitutional disturbance, is uniformly low. The practical value of this is at once apparent.

To illustrate :A young lady was recently referred to me who had for many years suffered from trouble at the hip joint. There had been an old injury and she had been unable to walk without crutches for years. An X-ray showed the head of the femur to have left the acetabular cavity and there was also evident erosion of the head of the bone. Her opsonic index was .22 or about 1-5

the normal. I feel quite sure that the condition is a tuberculous one.

While the amount of opsonins is practically always low in a localized lesion, it also seems to be true that where the infection is a general one or in which there are general manifestations, as fever, the opsonic index may be either above unity or it may be very low. This seems to be due to an occasional discharge into the blood of some of the tuberculous elements, with a consequent derangement of the machinery of immunity, evidenced by a rise in the amount of opsonins in the blood. A strictly localized lesion, however, allows of no such discharge into the blood, consequently the protective mechanism is not disturbed or stimulated to produce a rise in opsonic content, as is the case in a general infection.

However this may be, I hasten to make practical application of the matter in hand. It is possible by the methods of Wright to determine the quantity of these opsonins in anybody's blood and to compare this amount with the blood of normal persons.

For instance, in the case of Miss B., a young lady suffering with tuberculous glands of the neck, I determined her opsonic index in the following manner:

I took of my own blood a small quantity which was repeatedly washed with a solution of sodium chloride 0.85 per cent., and sodium citrate 0.5 per cent. This citrated salt solution prevented clotting of the blood. The blood in this solution was centrifugalized and the supernatent fluid pipetted off. The corpuscles were then mixed with 0.85 per cent. salt solution, thoroughly stirred up and again centrifugalized. This washing was repeated a third time. After the third washing the upper layer of blood cells contained many polymorphonuclear or phagocytic cells which rose to the top because they were larger. By this means we obtained corpuscles free from serum, designated as "washed corpuscles." These washed corpuscles, serum free, are an indifferent element in the determinations and may be obtained from any source. They could be taken either from the patient's blood, from my own blood, or from the blood of a third person. The opsonins are contained in the serum and it is the patient's serum that is directly compared with the normal serum. In this instance two capillary tubes were prepared. One tube contained one volume of the serum free, or so-called "washed corpuscles," one volume of my own serum, which was considered normal serum, and one volume of a suspension of tubercle bacilli. I had previously compared my serum with that of a large series of healthy persons, and found it apparently normal.

The serum used was obtained by centrifugalization The blood was drawn off in a small glass tube, closed at one end and then centrifugalized. The corpuscles were driven to the closed end of the tube, leaving the serum above, which was pipetted off in the proper quantity.

The tubercle suspension is prepared with difficulty. In fact, this part of the procedure is the most difficult step in the whole process. Tubercle bacilli are very apt to cling together in clumps because of agglutinating properties, and in order to make up an homogenous suspension of discrete tubercle bacilli, special precautions must be observed. Wright has suggested the following method which I have used and have found successful. A small quantity of the

tubercle growth is withdrawn on a platinum needle and ground up in an agate mortar with 0.1 per cent. sodium chloride. This is done with great care and by this means many of the clumps are broken up. The suspension is then pipetted off and heated to 100° C. This further aids in breaking up the agglomerated masses of bacilli. The suspension is then centrifugalized and most of the remaining clumps are got rid of in this way. Sometimes, when the suspension is very thick, some of the upper part is drawn off and further dilluted with fresh salt solution. By this means a good suspension, free from clumps, is obtained.

The other capillary tube contained one volume of washed corpuscles, one volume of the patient's serum and one volume of a suspension of tubercle bacilli. Both tubes were placed in an incubator at 37° C. for twenty minutes. After incubation smears were made from both tubes on slides, care being taken to spread as evenly as possible. For a time slides treated with emery paper, as advised by Wright, were used, but now plain slides are found to give good results. The films are allowed to dry on the slides. They are then fixed with a saturated solution of mercuric chloride. This is washed off and the slide is stained with carbol fuchsin which is heated on the slide until it boils. They are then decolorized with 2 per cent. sulphuric acid, washed with 1 :1000 sodium carbonate and counterstained with aqueous methylene blue. After blotting they are ready for counting. The bacilli are seen with great distinctness lying within the protoplasmic outlines of the cell. If the bacilli in the suspension are too numerous, the phagocytes may be packed with them and counting is made very difficult. Very seldom have I found more than three bacteria in a single phagocyte; many times less than one on an average. It has been my uniform practice to count fifty phagocytic cells in each slide.

While in the incubator the opsonins in my serum and in the serum of the patient had rendered the tubercle bacilli assimilable for the polymorphonuclear cells, and the result was a phagocytosis which could be seen and which could be numerically described. The following statement explains how the opsonic index was reckoned:

A.

July 13 W.R.M.K.'s washed corpuscles 1 volume
W.R.M.K's serum ..... 1 volume
Suspension tubercle bacilli. . 1 volume

Fifty polymorphonuclear white blood cells contain 174 tubercle bacilli.

B.

W.R.K M.'s washed corpuscles 1 volume
Miss B.'s serum. . ..... 1 volume
Suspension tubercle bacilli... 1 volume

Fifty polymorponulear white blood cells contain 106 tubercle bacilli.

By counting the number of tubercle bacilli taken up by 50 polymorphonuclear phagocytic cells, and comparing this result with the normal, as in the case, I was able to say that the patient's opsonic index was .61.

At the suggestion of Dr. Charles E. Simon ,of Baltimore, I have made in a number of instances, counts of phagocytic cells only, paying no attention to the actual number of bacilli in the cells. This has given results approximating very closely those of Wright's method.

I first set out to accomplish the technic in December, 1905 ,and it was not until April of 1906 that I began to be able to use the method practically. One of the first serious troubles I encountered was to secure suitable tubercle growths in pure

culture. I have found the glycerine agar cultures very satisfactory.

One of my earliest errors was in making up an improper suspension of tubercle bacilli. This flask contains one gram of tubercle bacilli in about 300 cc. of salt solution. On shaking it you may observe the clumps of bacilli with the naked eye. I have here a small bottle of pulverized tubercle bacilli, one gram in weight, supplied me by Dr. Von Ruck, of Asheville, N. C. I had intended to use these but later found pure cultures more available.

The great practical value of the consideration of the opsonic index is the fact that the appropriate use of tuberculin T. R. in proper doses and at proper intervals of time, seems to result in a definite rise in the opsonic content of the blood, or, in other words, the immunity of the patient is directly increased. It is possible to plot a definite curve of the patient's condition, and thus to measure graphically his powers of resistance to hostile micro-organisms.

I have determined the opsonic index in thirty or more different cases and some of the results are interesting. A little girl of eight years, with a suspected tuberculous hip, refered to me by Dr. Willis, had an almost constant fever Her opsonic index was found to be 1.8. It will be remembered that where fever is present, the opsonic index may be either above 1 or far below it. Patient was later given a diagnostic dose of Koch's old tuberculin, to which she reacted in a typical manner, thus showing that the blood findings were entirely reliable. Indeed, some observers declare that an opsonic index below .8 or above 1.3 is conclusive evidence of a tuberculous condition.

And now I wish to call your attention to two cases which illustrate the practical application of the method.

The first patient referred to me by Dr. Fiset, of Seattle, is a young woman, aged 25. I am fortunate in being able to show her to you today. She has come to Spokane from Seattle, a distance of 400 miles, so that I might show her to you. She has no family history of tuberculosis. She has suffered from tuberculous glands of the neck since 1899. She has undergone 6 operations for the removal of these glands, as the scars in her neck will attest. When she came up for treatment, in April, 1906, there was a mass of old inflammatory tissue along the side of her neck at the site of the operative scar, which stood out like a cord, and which was always visible no matter how her head was held. There was a gland under the jaw on the left side which was apparently as big as a large marble, which could not be concealed, and was of extreme annoyance to the patient. Another large gland was evident at the border of the right axillary space. Since April, under vaccinations of tuberculin T. R., the cordlike prominence in the line of the old scar has disappeared, the gland under the jaw is no longer visible, and the gland in the right mammary region has markedly decreased in size. In April she weighed 107; she now weighs 113¾ lbs. She had steadily declined in weight for the prevous three years.

The patient received vaccinations of T. R. in appropriate doses every ten days. This patient was examined during treatment by Drs. Heg and Smith, of Seattle.

The second patient, a woman of 53, is the mother of a Seattle physician. She had planned to be here to-day, but was unable to come. She was a patient in the Seattle General

Hospital, in February, 1906. While there, a large right-sided effusion was found, and Dr. Willis twice tapped the side and removed several quarts of fluid. We suspected the tuberculous nature of the trouble, but stains made from the fluid revealed no tubercle bacilli. Two guinea pigs were innoculated with the fluid, with a negative result. The patient was then given a diagnostic dose of Koch's old tuberculin, to which she reacted definitely.

The patient remained in the hospital until April 26. She then went east of the Cascade Mountains, and remained there until the 5th of July, when she returned to Seattle. During the time spent in the eastern part of the state, she slept out of doors and tried to eat as heartily as she could. She returned to Seattle very little improved. On July 12, her opsonic index was found to be .82. She was given a therapeutic dose of T. R. and has received vaccination every ten days since. A marked improvement was at once noted. We do not know how much she has gained in the first ten days, but between the 22nd of July and August 24, she gained 7½ pounds, and was improved in all respects as she was in her weight.

When I saw her, on July 5, there was marked dullness on the right side, and the breath sounds were distant and scarcely audible. I suggested the possible presence of a pleural exudate to her son. Dr. Willis recently examined the patient and he tells me that the physical signs are now practically the same on both sides. This seems well nigh incredible, for it is well known how persistent dullness is after an extensive pleural exudate.

In conclusion, I would say that Wright and his pupils have apparently furnished us with a most valuable addition to our diagnostic methods in tuberculosis, and they have been able to report cures which seem little short of marvelous.

The cases which have thus far been specifically affected are those of bone and joint tuberculosis, tuberculosis of glands and subcutaneous tissues, and genito-urinary tuberculosis. This treatment does not seem to apply to tuberculosis of the lungs, which is not a truly localized condition.

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DURATION OF CONTAGION IN INFECTIOUS DISEASES.

By W. H. EAGAR, M. D.
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(Read before N. S. Public Health Association.)

THE request for a paper on the above mentioned subject, from my esteemed and worthy friend, Dr. Reid, was accompanied by the following remark, "Make it short; you know the discussion is the best part of it." Now I hold that this remark was entirely unnecessary, for, had I the finest library in the world to draw from, I could not make my paper a long one, unless I were to encroach upon the ground covered by others, and deal with subjects not covered by the heading of my paper.

The subject is indeed a very difficult one to handle. Text books afford us very little light on the subject, and it is practically impossible to make it interesting.

SCARLET FEVER.—The contagium of this disease is very virulent, and remains in the clothing and room for a long time. It may be communicated by a third person. The probabilities of contagion are, slight at beginning of invasion, greatest from third to fifth day, at height of febrile period, and, next, during stage of desquamation.

Patients should be isolated until *desquamation is complete.* Children should be examined for trouble of the nose, throat, ear, etc., as disease of these organs may communicate the disease for many weeks after the cessation of fever and disappearance of rash. Cases are cited where the opening of a post scarlatinal abscess was followed by an outbreak of scarlatina.

Six weeks is a minimum period for isolation

MEASLES.—This disease is highly contagious, a short exposure only being necessary. Unlike scarlet fever it is rarely communicated by a third person. Nor does the germ remain virulent for so long a period in the clothing, room, etc.

It is highly contagious from the beginning of the catarrhal symptoms, diminishing rapidly with the subsidence of these symptoms, and fading of the rash. It is feeble during desquamation.

Isolation, therefore, depends upon the severity and prolongation of the catarrhal symptoms, which on an average will be three weeks, provided there are no complications.

GERMAN MEASLES (Rubella).—Quarantine for three weeks from onset.

CHICKEN POX (Varicella).—Chicken pox is very contagious, a third person may carry the disease, but it is not a very serious condition.

Isolation, especially for weak children, should be carried out until desquamation is complete. As desquamation is going on in some places while new vesicles are coming out in others, this will not be a very long period. (About three weeks).

WHOOPING COUGH.—Very contagious, proximity even in the open air being sufficient; rarely conveyed by a third person except when in very close contact with both parties; rarely by room, or clothing.

It is most contagious during the catarrhal stage, but continues during the spasmodic stage.

Isolation should be carried out for from six weeks to two months, or

until spasmodic stage is over, especially from delicate children.

Children develop the whooping habit which may last for some time, or recur with fresh colds, but this is not contagious or true whooping cough.

I would like to make this a plea for the more thorough quarantine in this disease. There is hardly a disease of childhood which leaves the lung and system generally, in such a susceptible condition for the attacks of the tubercle bacillus, and too much care cannot be exercised in the prevention of its spread.

MUMPS.—Acutely contagious from the beginning of symptoms. May be carried by a third person; symptoms mild, with few and rare complications.

Quarantine for three weeks, or for ten days after swelling in glands has subsided.

DIPHTHERIA. — Very contagious, with a specific germ. Pharyngeal and nasal cases are the most contagious; the laryngeal and tracheal least. May be transmitted from cases not severe enough to be recognized, or persons not suffering from the disease, by a third person, if in close contact. Bacilli retain their virulence for a long time outside the body.

Isolation should be carried out so long as bacilli are found in the throat or nasal discharges.

The New York Health Department investigated 605 cases:

In	304	of these,	bacilli had	disappeared by	3rd	day after membrane was	gone
"	176	"	"	"	7	days " "	"
"	64	"	"	"	12	" " "	"
"	36	"	"	"	15	" " "	"
"	12	"	"	"	21	" " "	"
"	4	"	"	"	28	" " "	"
"	4	"	"	"	35	" " "	"
"	2	"	"	"	63	" "	

The bacilli remain much longer in the nasal cases, probably owing to some invasion of the sinuses, especially the antrum.

Where a bacteriological examination is not possible, quarantine should be continued in mild cases for at least ten days; in severe cases for three weeks after the membrane has disappeared.

TYPHOID FEVER—Quarantine should be as strict as possible. Where possible, cases should not be treated in general hospitals, but if there, not in a greater proportion than one to five of other patients. The danger of contagion is more from the nurse who handles the dejecta.

Dejecta should be disinfected for two weeks after the onset of convalescence.

SMALL-POX—Authorities agree that isolation should be maintained until the disappearance of scabs and sores.

Dr. Reid, in an exhaustive article, Circular No. 9, says isolation should be carried out for eight weeks after the scales fall.

TYPHUS FEVER.—Very rare at the present day. Isolation should be practised for five weeks.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.—Is not considered contagious; in 70 per cent. of cases only one person in a house affected, with no attempt at quarantine.

THE RELATION OF CERTAIN EYE CONDITIONS TO SCHOOL CHILDREN.

By EVATT MATHERS, M. D.
Halifax, N. S.

(Read before Nova Scotia Public Health Association.)

WHEN Dr. Reid asked me to read a short paper of ten minutes duration, on "The Relation of Certain Eye Conditions to School Children," I felt I could hardly do justice to such a subject in so short a time, but perhaps a hasty skimming over the various diseases and refractive errors may, I trust, prove of some value.

The idea of this paper will be merely to mention the diseases and briefly to touch on the signs and the symptoms which children manifest, so that we may not pass over the things which seem trifling, but which may eventualy lead to some serious condition.

It seems pitiable the way children's eyes are neglected, and how they are allowed to suffer and often lose useful sight for want of a little care and thought.

SQUINT.—How often is this unsightly deformity neglected by the parents, simply because they have a dread of an operation, when very often such is quite unnecessary, as a careful fitting of glasses under a mydriatic, would correct this deformity; and, if not taken too late, save useful vision in the squinting eye which otherwise would become about useless from non-use. If an operation is found to be necessary, not only the cosmetic effect, but also the vision will be found to be greatly improved in time. Besides glasses, the stereoscope may be utilized to strengthen the muscles of the eye.

HYPEROPIA AND ASTIGMATISM, separately or in combination, are frequently found. The teacher may consider these children stupid, simply because they will not study. The reason in the vast majority of cases being that near work is rendered fatiguing, and causes severe headache. These children are often peevish and irritable. A proper correction of these refractive errors under a mydriatic (it is useless otherwise) will relieve the pain and make them different children. They often suffer from blepharitis, hordeolum and blepharospasm.

MYOPIA.—This most serious eye disease should be carefully watched. It is due to the elongation of the globe, and may sometimes be detected by prominence of the eye. If a person complains of specks in front of the eyes, screws up the eyelids, and is troubled with conjunctivitis which resists treatment, myopia should be suspected.

Children who suffer with this affliction should have their eyes examined and refracted at least once a year. They should be given their full glass correction where possible, and made wear their glasses continuously, so as to do away with all eyestrain, and thus help prevent the myopia increasing. They should be given front desks in school with the best light. Their studying, of which myopes are usually very fond, should be restricted, and they should be made to take regular out-door exercise, the general health looked after, and all extra reading prohibited. Reading in bed is a very bad habit that some of these children have.

BLEPHARITIS —Hyperopia or astigmatism should be suspected in this disease; it is often met with in delicate children, or may follow an attack of measles or scarlet fever; also it may be seen with an eczematous eruption on the face.

Corneal ulcers and phlyctenular are not infrequent complications.

PHLYCTENULAR CONJUNCTIVITIS.—This condition is usually accompanied by pain and photophobia. The children suffering from this disease are usually in poor health and have some nasal or postnasal trouble which should not be forgotten in the treatment, as it will in the majority of cases hasten the cure. One must not be content with an examination of the child, but must enquire very carefully into the conditions in which the child is living, as the poor ventilation of the home and the overcrowding in the sleeping apartments are great factors in the causation of this disease.

I would like to mention one or two cases which show how much damage may be done to children's eyes by neglect of parents who had been advised to bring their children in for re-examination, and also for operation and had failed to do so.

CASE 1.—Child age 8, had a squint in the right eye with vision 15 - 120, left eye normal; operation was advised, but refused. The child was brought in four years later and complained that she could not see out of left eye that was normal before. On re-examination the vision in the right eye was practically gone, the left eye had become very myopic from strain and overuse, and by extra strain from the child being allowed to read in bed.

CASE 2.—Little girl aged 6, when I first saw her, but two years previous to this the father had consulted me about a squint which he said the child had developed a few weeks before. I advised him to bring her in for examination at once; this he neglected to do for two years, till the squint had become very pronounced. The vision when in the squinting eye was only 3 - 200. On testing the child's eyes, they were found to be very hyperopic. Glasses and muscle exercises were ordered with the result that in a short time the squint was cured, but the improvement in vision in the squinting eye was only about a third of normal.

ON THE IMPORTANCE OF THE PERIODICAL EXAMINATION OF THE TEETH OF CHILDREN ATTENDING THE PUBLIC SCHOOLS.

By HIBBERT WOODBURY, D. D. S.
Halifax N. S.

(Read before Nova Scotia Public Health Association.)

THE subject that is allotted me is "Children's Teeth." I surely cannot complain that the subject is not broad enough. The task is to select what may be of benefit to this convention. It might be well to consider briefly the setting or suroundings of our subject, and thus lead up to what I presume is intended—the care and preservation of children's teeth.

The face is more than any or all other parts upon which the soul throws its lights and shadows, through which it speaks, and the mouth is the facial point. The importance of facial expression upon the character and hapiness of the individual is very marked.

For illustration let us consider two of the common causes of facial distortion: on the receding lower jaw and teeth accompanied by protruding upper teeth and maxilla, so often caused by finger sucking in early childhood. This condition gives to the face a weak expression, and is generally attended by injurious habit of mouth breathing. The second illustration is just the reverse—protruding lower maxilla and defective development of the superior arch. The latter condition is generally caused by malocclusion of the permanent teeth, and appears between the ages of six and fourteen. This gives the prominent chin and bull dog expression. Such ones could have had the pleasure of graceful expression and symmetrical profile, if proper treatment had been resorted to.

As man is an omnivorous animal, with the incisors of the rodent, the canines and bicuspids of the carnivora, also the molars of the herbivora, he is calculated to live upon a varied bill of fare. We meet this complete dental equipment at the very portal of the alimentary canal. The proper incorporation of the saliva with the food is accompanied by thorough mastication. If any teeth posterior to the canines are missing or disappeared from decay, just that much masticating surface is lost. Again we see the evil effects of decayed teeth, and the accompanying unsanitary condition of the oral cavity upon the throat and lungs. More and more is the watchword "pure air." We all know that a large percentage of the air inhaled is taken directly through the open mouth. Let us think of cavities of decay, a cesspool more or less septic. One with a mouth in that condition might be in the purest mountain air and yet every inhalation must of necessity be tainted. If this be so, I leave it with the medical gentlemen present to draw their own conclusions as to the effect upon the throat and lungs.

Decay of the teeth may be caused by overcrowding. Imperfect tooth structure, abnormal condition of the fluids of the mouth, sluggish circulation of the saliva due to its viscid character holding particles of food in

contact with teeth long enough for fermentation to take place, that mouth is a kind of still water where drift stuff gathers.

The care and preservation of children's teeth may be brought about by enlightening those whose duty it is to look after the welfare of the young. Much can be accomplished by instructing and interesting our school teachers.

If cleanliness be next to Godliness, that surely should apply to the mouth.

Without giving here any specific rules for the care of children's teeth, we may indicate some of the ground to be covered. The proper use of the tooth brush, and suitable dentifrices, when to be used; teaching the children to frequently examine their teeth with a mirror, and in this way learning to prize the natural teeth; the importance of treatment in the early stages of decay; in fact the prophylactic treatment, rather than remedial of the mouth and teeth.

Some countries in Europe are giving this matter careful attention. the cities of Strassburg and Darmstadt have most complete rooms and equipments for this purpose of examining children's teeth, and go so far as the treatment. The matter is also receiving attention in many of the States of the Union.

At the Nova Scotia Dental Association held in 1906, a committee was appointed with this matter in charge. The subject was presented to the Provincial Teacher's Association, held in this city, in 1906, and was favorably received. It is also hoped that legislation will be secured leading to the dental inspection of school children's teeth. This convention is evidence of the growing and deepening interest taken by men of different callings in the health of the pepole, recognizing that the young life of our country is the most valuable asset we have. We are confident that healthy environment will go far in producing clean living.

ALOPECIA AREATA.

By JAMES ROSS, M. D., C. M.,
Halifax, N. S

1 2 3

THE cases here shown are intended to supplement my paper published in the February MARITIME MEDICAL NEWS, on page 64.

The girl (figure 2) has been treated by tonics, stimulating lotions, the static current and hypodermatic injections of pilocarpine. Several small patches of hair have developed normally colored, and also a fine downy growth extending over a considerable area. Unfortunately, however, the fine down has mostly disappeared, and so far there is little improvement.

The boy (figures 1 and 3) has had both galvanic and faradic treatment, tonics, stimulating lotions, but the disease has since spread much wider than shown in the photograph. Lately he has been using the "vacuum cap" treatment, and evidently the disease has reached its climax. There are now evidences of new hair showing at the margins of the patches.

SOCIETY MEETINGS.

Canadian Medical Association.

THE Fortieth Annual Meeting of the Canadian Medical Association will be held at Montreal, P. Q., on the 11th, 12th and 13th of September, 1907. All are invited to be present and contribute to the success of the meeting by contributing a paper, pathological specimens, a demonstration, or joining in the discussions.

The Committee on Papers and Business desires to call attention to the following extracts from the Constitution:

> All papers (or abstracts thereof) should be in their hands at least three weeks before the date of meeting.
>
> A copy of every address, discourse, or paper read before the Association shall at once be handed to the General Secretary, and shall become the property of the Association, and shall be

preserved with the other documents, etc.

Members desiring their papers to appear in any particular journal shall present a duplicate copy with the name of the journal marked thereon.

In order to make proper arrangements re accommodation, all intending to contribute or to be present, should communicate with the General Secretary without delay.

The Canadian Medical Association endorses the Canadian Medical Protective Association, and urges its members to become members of the latter organization.

American Medical Editors' Association.

The 38th Annual Meeting of this Association will be held at Atlantic City, on Saturday, June 1st, and Monday, June 3rd, with headquarters at the Marlborough-Blenheim Hotel. This active Association now numbers nearly 150 members, with many applications in hand for action at the coming meeting. An interesting programme has been prepared, and the following are among the papers to be presented:

President's Address: "The Future of Medical Journalism," by James Evelyn Pilcher, M. D., Ph. D., L. L. D.

"Short Comings of Physiology," "The Chief Obstacle To Medical Progress," "The Need of Editorial Intervention In Such Questions," by C. E. de M. Sajous, M. D., Phila., Pa.

"How Can We Make Medical Journalism Better?" (*a*) For Our Readers. (*b*) For Our Advertisers. (*c*) For Ourselves. By W. C. Abbot, M. D., Chicago, Ills.

" A Word or Two From An Ex-Journalist," by Samuel W. Kelley, M. D., Cleveland, Ohio.

"The First Medical Journals," by O. F. Ball, M. D., St. Louis, Mo.

"The Psychology of Medical Journals From The Reader's Standpoint," by T. D. Crothers, M. D., Hartford, Ct.

"Further Reflection on the Official Versus Independent Medical Journals, One Year's History," by Wm. J. Robinson, M. D., N. Y. City.

"Journalistic Suggestions From A Semi-Disinterested Standpoint," by Wm. Porter, M. D., St. Louis, Mo.

"The Situation," by C. F. Taylor, M. D., Phila., Pa.

"Some Aspects On Medical Journalism," by W. F. Waugh, M. D., Chicago, Ills.

"The Neglect of American Mineral Springs and Climatic Resorts by Our Medical Press," by G. T. Palmer, M. D., Springfield, Ills.

"A Few Feeble Remarks," by W. A. Young, M. D., Toronto, Ont.

"The American Medical Association, Past, Present and Future," by Joseph MacDonald, Jr., M. D., N. Y. City.

On account of the largely increased membership of this Association, it is anticipated that the coming meeting will exceed any prior meeting in point of attendance.

The Annual Editors' Banquet, which is always the social event of the week, will be held at the Marlborough-Blenheim Hotel, on Monday Evening, June 3rd.

Halifax and Nova Scotia Branch British Medical Association.

MARCH 20th.—The President, Dr. Ross in the chair.

Dr. T. D. Walker, of St. John, read an extremely instructive and well-received paper, entitled "Non-Traumatic Joint Affections," (published in this issue). Dr. Walker referred

to several cases in his own practice for purposes of illustration, and showed many photographs and skiagraps of the conditions described.

Dr. Chisholm referred to the great enlargement of our knowledge of joint lesions, which has been brought about through antiseptic surgery, and to a greater extent through the agency of the X-rays. He considered Goldthwaite's classification as presented in Dr. Walker's paper, to be admirable.

Drs. J. G. McDougall, Farrell, Woodbury, G. M. Campbell and Goodwin, also took part in the discussion of the paper.

Dr. J. G. McDougall, of Amherst, then presented an interesting case report of "Cranial Injury," in an apparently healthy, middle-aged man, followed by slight albuminuria, hyaline and granular casts. The reader emphasized the difficulty of diagnosis in such a case, between an intra-cranial lesion and renal disease. A marked effect followed the use of potassium iodide. (This paper will be published in the NEWS.)

Dr. Goodwin suggested that the injury may have so lowered the system as to permit the latent kidney condition to get the upper hand.

Dr. G. M. Campbell mentioned shock as a possible exciting cause for the arterio-slerosis.

Dr. T. D. Walker thought that the kidney condition might have been brought brought about by the sudden strain on the eliminative processes produced by the enforced rest after the injury, the patient, as stated, being accustomed to a very strenuous life.

Cordial votes of thanks were extended to Drs. Walker and MacDougall for their valuable contributions.

The branch also passed a vote of thanks to the City Council for their courtesy in placing the Council Chamber at its disposal.

This was acknowledged in short speeches by Deputy-Mayor Johnson and Alderman Murray.

MAY 1st.—The closing meeting of the session was held at the Queen Hotel.

Dr. Goodwin reported for the committee appointed to consider the question of Fraternal Societies and Contract Practice as follows:

(1) That though not unethical, contract practice is not satisfactory.

(2) That nothing less than two dollars per year a head, without medicine, should be accepted.

(3) That no one earning more than fifteen dollars per week participate in medical benefits without special terms being made for such.

Dr. C. D. Murray thought that the resolutions embodied in the report went too far. Contract practice in this city levels itself. He moved that the report be considered three months hence. This was seconded by Dr. Hogan.

Dr. Goodwin defended report of committee, and after some further discussion, Dr. Murray's motion carried.

The election of a representative on the General Council was then brought before the meeting, and a committee was appointed, consisting of Drs. C. D. Murray, Hattie, Hogan and the Secretary to draw up a protest against appointing a representative with branches so remote as Montreal, Toronto and Bermuda.

It was further resolved that the matter of election of a representative be left to the Council of this Branch with the suggestion to the Association that this branch select that official.

Dr. Eagar referred to the proposed Children's Hospital scheme, and moved a committee of three be appointed to confer with the Children's Aid Society, and to further act as a standing committee to further aid the movement in every way. This was seconded and carried.

Drs. Ross, Trenaman and Chisholm were appointed the committee.

Dr. Farrell moved that this branch views with favor the establishment of a Children's Hospital in Halifax. This was seconded and carried.

After adjournment the members to the number of 22, sat down to a well-prepared hot supper in the dining room of the Queen Hotel. Speeches were the order of the occasion, and a very pleasant time concluded the closing meeting of the session.

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St. John Medical Society.

MARCH 6, 1907.—The President, Dr. Melvin, in the chair.

Dr. George A. Hetherington presented a paper upon the "Medical Literature of the Ancients." Hippocrates was the "father of medicine" and flourished about 460, B. C. He was a great figure in Greece, and was called, professionlly, to many parts of the country. Dr. Hetherington quoted quite fully from his writings, as well as from those of his followers, among whom were Hippocrates' two sons. The well-known "oath" was touched upon by the lecturer, and interesting details given of the progress of an attack of the plague in Athens at a very early date.

MARCH 13.—At Dr. MacLaren's invitation, the Society met in the reception room of the General Public Hospital. Dr. MacLaren exhibited the following cases: (1) Excision of elbow-joint, with removal of olecranon and articular surfaces. (2) A tubercular elbow. (3) Fracture of skull. (4) Gall-bladder case, with drainage ,and (5) Pseudo-elephantiasis. The latter was a most interesting case, and one well worthy of close clinical study.

Dr. Warwick showed two interesting pathological exhibits, one being a fine microscopical specimen of the parasite of malaria, and the other a remarkably clear-cut and beautiful example of intussusception of the transverse colon, from a recent autopsy. The various cases were discussed by the members present, who were unanimous in thinking the meeting one of the most valuable sessions of the Society of the season.

A tremendous snow-storm effectually put a stop to the proposed meeting of March 20, at which Dr. Thos. Walker was to open a discussion on the "Treatment of Hæmoptysis," and the Society did not meet until

MARCH 27.—Dr. J. P. McInerney spoke with great interest and vigor on "Unfair Medical Legislature." In the course of his remarks he touched upon (1) Dominion Registration, (2) The Case of Dr. Crichton (Ontario), (3) Quackery in this Province, (4) Osteopathy, and (5) A Sanatorium for Consumption. It is not often that the Society has listened to a more profitable discourse, and the discussion following was participated in by nearly the entire membership. Dr. Thos. Walker had no doubt, whatever, that the reporting of infectious diseases by the profession should be paid for, and that "osteopaths" so-called, should be permitted to practice only upon proving themselves acquainted with sufficient anatomical and medical knowledge, generally, as to render it safe to the public to submit to their manipulation. Dr. Inches was great-

ly in favor of Dominion Registraton, and thought the latter would do much o reduce quackery.

April 3.—Dr. Grey, of Fairville, opened a discussion upon the "Drug Treatment of Hæmoptysis." Ergot and the dilute sulphuric acid were the only drugs he had used in this disease. Dr. Warwick and Dr. Corbett spoke of the influence of morphine and atropine, and the latter asked to have the opinion of the leaders of the discussion as to the ætiology of non-tuberculous bleeding. Dr. McInerney had found adrenalin useful in hæmorrhage of typhoid, but was doubtful of its efficacy in that from the air-tubes. Dr. Crawford recited the details of a very severe case of epistaxis he had had recently, under his charge at the General Public Hospital. The President was of the opinion that of all remedies, some form of opium, preferably the tincture, if time allowed, was to be chosen. This, not because of any direct influence, but on account of its sedative action, thereby indirectly affecting the circulation, and by the lowering of the blood-pressure through its nauseating action.

The President called th attention of the Society to the lamentably sudden, and very much to be regretted death of Dr. March, but an hour or two previous, that evening, and Dr. Scammell, who had been called in the case, gave the members an account of some of the sad details. It was resolved that a committee, consisting of the President, Secretary and Dr. McInerney, be instructed to formulate a suitable resolution upon this occasion, to be presented to the Society at its next meeting, and also to the widow, as well as the daily press. It was also determined that steps be taken to attend the funeral of Dr. March in a body.

April 17.—At this session Dr. W. E. Rowley, of the General Public Hospital, was elected a member.

The committee appointed for the purpose, submitted the following resolution regarding the death of Dr. March, which was unanimously adopted.

Whereas, it having pleased Almighty God to remove, by death, Dr. John Edgar March, long an active member of this Society, and

Whereas, it is obviously fitting that due note of this sad occurrence should be taken, therefore

Resolved, that by the death of Dr. March, the Society realizes the loss of an active and diligent labourer in the services of medicine; a zealous and capable officer in the field of quarantine and hygienic activity; a valuable and patriotic member of the medical branch of the militia service, and a loveable, genial and whole-hearted citizen.

Further Resolved, That a copy of this resolution be forwarded to Mrs. March, to whom the Society begs to tender its most respectful sympathy, and to the press for publication; and that this resolution be entered at large upon the minutes of the Society.

Dr. Anglin, of the Provincial Hospital, then addressed the Society upon the "Care and Treatment of the Insane." The paper was so valuable, and, withal so clear and simple in its diction, that the Society, without dissent, asked Dr. Anglin's permission to have it published in the leading daily paper of this city. This was in consequence, chiefly, of the excellent effect it was calculated to have upon the public in the way of removing from their mind many misconceptions regarding the official and institutional care of the insane.

April 24.—Dr. L. A. McAlpine presented the Society with a most well-written and instructive series of case-reports from his private practice. They consisted of (1) Heart-disease, showing most emphatically, the folly of the practitioner in announcing to his patient that he has organic heart-trouble. (2) An instance of Hydrocephalus simulating twins, to the examining finger in the vagina, and hand over abdomen. (3) Prolonged lactation; in this instance the milk continuing in breast for 15 years. (4) Strychnine poisoning, with ingestion of over two grains of the drug, cured by hypodermics of apomorphine and exhibiton of large quantity of melted lard. Latter had been suggested to him by a recent item in a medical journal. (5) Difficult delivery from pendulous abdomen. Hardly too much can be said regarding the intensely practical and interesting character of these notes, or of the correct and incisive form in which they were couched.

May 8.—The Society confined itself to a strictly business discussion, concerning the coming Annual Meeting, a revision of the by-laws, and a contemplated change in the frequency of its meetings .

PERSONAL PARAGRAPHS.

THE Final Professional Examinations of the Provincial Medical Board which began on Wednesday, April 10, were concluded on Thursday, April 19, and the results were recently announced. The following candidates have succeeded in passing the examinations and, having otherwise satisfied all the requirements of the Medical Act, have been admitted as Licentiates of the Medical Board and granted its Diploma. They are now entitled to registration for the practice of Medicine in Nova Scotia, viz:

Carter, Peter McFarlane, Antigonish. Chisholm, Hugh Dan, Springville, Pictou. LeBlanc, Benjamin Amedee, Arichat. Macdonald, John, Huntington, C. B. Macdonald, Ronald St. John, Bailey's Brook, Pictou. Walsh, Cornelius Edward, Port Maitland.

Dr. G. G. Melvin, of St. John, has been added to the editorial staff of the News.

Dr. Murray McLaren, of St. John, sailed for Europe last month, and will probably remain some time in Vienna.

Dr. G. M. and Mrs. Campbell will have the deep sympathy of the profession, in the sudden death of their son.

Dr. G. N. Murphy, of St. John's N'fld., has recently returned from some of the New York hospitals.

Dr. F. J. A. Cochran is now practising in Sydney.

Dr. D. A. and Mrs. Campbell, who were recently in Baltimore, are now in Atlantic City. We are pleased to state that Mrs. Campbell has much improved in health, after undergoing an operation at Johns Hopkins Hospital.

Dr. John Stewart is now visiting England, and will soon start for Edinburgh, when it is to be hoped the change will prove beneficial.

Dr. F. V. Woodbury has removed his office and residence to 192 Pleasant Street.

Dr. L. M. Silver, who bought the house, 63 Morris Street, has moved to his new residence.

Dr. V. N. MacKay, recently of Windsor, is coming to Halifax, to take up practice.

Dr. J. St.C. MacKay, formerly of Earltown, is now located in Windsor, where he resumes the practice of his brother.

Dr. W. D. Forrest has been appointed Health Officer for the Municipality of Halifax.

Drs. A. R. Cunningham and F. V. Woodbury have been appointed Medical Inspectors of schools for this city until the close of the present term.

CURRENT MEDICAL LITERATURE.

TEXT-BOOK OF PSYCHITARY. A Psychological Study of Insanity for Practitioners and Students. By DR. E. MENDEL, A. O. Professor in the University of Berlin. Authorized Translation. Edited and enlarged by William C. Krauss, M. D., Buffalo, N. Y., President Board of Managers Buffalo State Hospital for Insane; Medical Superintendent Providence Retreat for Insane; Neurologist to Buffalo General, Erie County, German, Emergency Hospitals, etc.; Member of the American Neurological Association 311 Pages. Crown Octavo. Extra Cloth. $2 00 net. F. A. DAVIS COMPANY, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

This translation of the work of the most eminent of German specialists in diseases of the mind, is a welcome addition to our literature in the difficult field of psychistry. Rather more than one-third of the volume is devoted to the discussion of general symptomatology, and particularly of mental symptoms. This review of mental symptomatology is one of the most comprehensive and withal the most concise of which we have knowledge, and is an exceedingly valuable feature of the book. We could wish, however, that the translator had been less anxious to conserve the author's conciseness of style, for in some places the text—at best technical—might have been made more readable by the addition of a few English words. This does not apply to the description of the various mental maladies, which is more easily followed, and which is wholly admirable. We doubt if the average medical student would profit by the use of this text, but can recommend it unreservedly to the practitioner who desires to acquaint himself with the best of modern teaching in this most important specialty.

PSYCHOLOGY APPLIED TO MEDICINE. Introductory Studies, by DAVID W. WELLS, M. D., Lecturer on Mental Physiology and Assistant in Ophthalmology, Boston University Medical School, etc., etc., 12 mo., 200 p.p. Price $1.50. Published by F. A. DAVIS COMPANY, Philadelphia.

This interesting little book gives the reader an insight into some of the matters over which the psychologists ponder. The treatment of the subject could not be comprehensive in so small a volume, but the subjects touched upon are given very clear and succint, emphasis being given to such points as are applicable to medical practice. The larger part of the book is devoted to a resumé of our present knowledge of hypnotism and mental healing. The author considers that hypnotism deserves definite recognition as a therapeutic force, and makes a strong plea for its application in the treatment of certain conditions.

OBITUARY.

Dr. John McMillan.

The death of John McMillan, one of the best known and highly respected practitioners of this province, took place on the morning of the 1st inst., at his home in Pictou. Dr. McMillan had been in poor health all the winter, but had only been confined to the house for four weeks, and his death came as a sudden shock to the community.

John McMillan was born at London, Ont., seventy-three years ago. He was a graduate of Queen's and McGill. Fifty years ago he began the practice of his profession at Wallace. Some years later he moved to Sherbrooke, then to New Glasgow, and finally to Pictou, about thirty years ago. He married a daughter of the late Hon. Simon H. Homes, who survives him, with a daughter, Annie, and a son William, a commercial traveller representing a Montreal firm. The untimely death of his eldest son, John, a young man of brilliant parts, occurred about fifteen years ago, and proved a great blow to his father.

Dr. McMillan made friends among young and old, and in a quiet unostentatious way was continually doing good. He was an ardent supporter of St. Andrew's Church, was chairman of the Board of Trustees at the time of his death, and actively supported every measure calcluated to further the work of the church. As a member of the Masonic Order, he was held in high regard by his brethren, and only recently retired from the position of District Deputy Grand Master. His visits to the lodge room were always appreciated. He was likewise popular with the members of his profession. Young and old therein recognized his worth as a practitioner, and admired him for his manly qualities. As a citizen he took a deep and intelligent interest in all that made for good government, had strong convictions which he fearlessly expressed without offence to anyone.

About the middle of April, the fiftieth anniversary of his entrance into the field of medicine, he was waited upon and presented with a beautifully illuminated address, a silver service and purse of gold, by a number of his friends and admirers in Pictou.

Dr. McMillan's funeral was a testimony to the worth of the diseased,—one of the largest funerals Pictou has had for years. Service at the house was conducted by Rev. L. H. McLean, assisted by Rev. Dr. Falconer and Rev. Geo. S. Carson. Interment was made in the new cemetry, where the impressive burial service of the Masonic Order was conducted by members of New Caledonia Lodge, who assembled in large numbers. The floral offerings were many and beautiful.

Among those out of town who attended the funeral were the following gentlemen: Hon. James McDonald, ex-Chief Justice of Nova Scotia; Hon. S. H. Holmes; A. C. Bell, ex-M. P.; John M. Baillie, M. P. P., and Dr. Kennedy, New Glasgow.

James Dudley Mosher, M. D.

The death occurred at Pleasant Valley, Hants County, on Saturday, May 4th, 1907, of Dr. James Dudley Mosher, in the 54th year of his age. The deceased received his diploma from the College of Physicians and Surgeons, Baltimore, Md., in 1886, since which time he has practised his profession in the Rawdons of Hants

country. He was very highly esteemed, and had a good lucrative practice. He leaves a widow, one brother, Captain Ira Mosher, of Mosherville, and two sisters to mourn their loss.

The funeral took place at 10 a. m. on the 6th inst.; Rev. L. E. Fraser conducted the service at the house, and afterwards at the Anglican Church, Centre Gore, where the body was taken, and an appropriate sermon was preached by Rev. G. R. Martell.

At the close of the service the remains were conveyed to their last resting place, where the impressive Masonic service was conducted by the Worshipful Master of Welsford Lodge (of which the deceased was a member) and other brethren there.

The funeral procession was one of the largest seen in that section of the county for many years, all in carriages.

*

Dr. Thomas W. Walsh.

The untimely death of Dr. Thomas W. Walsh, at the age of 49, which occurred on May 10th, was the cause of great sorrow to many of his professional brethren in Halifax, and of regret to all who knew him. Those who knew him most intimately loved him most. To the comparative stranger he did not unbosom himself though his geniality was for all. He began the study of medicine in the early days of the Halifax Medical College, but abandoned it for a time on the death of his father, to take up the drug business, which his father associated with his practice. A few years later he completed his medical studies at Bellevue Hospital Medical College, beginning practice immediately in Halifax in 1891. Starting in the north-end of the city, he built up a large practice, and was one of the surgeons to the I. C. R. employees up to the time of his death. His popularity caused him to be chosen as one of the Conservative candidates for the City and County of Halifax in the Provincial election of 1894. He was not successful, and eschewed politics in later years. A few years ago he moved to the south-end of the city, but was constantly in attendance on his north-end clientele. He was examiner for several assurance companies, and performed his duties with great faithfulness.

Dr. Walsh was also Professor of Obstetrics in the Halifax Medical College, and for some years member of the Executive of that Corporation.

He was also a past-president of the N. S. branch of the British Medical Association.

The cause of his death appears to have been arterial degeneration, gradual deprivation of the brain of its blood supply and softening. His friends had noticed some failure of attention, and continuity of ideas, for probably a year or more, but a fatal ending so soon, was not anticipated until a few weeks before the end.

Tom Walsh's nature was a very simple one. He had no head for intrigues nor head for jealousy. Generosity was almost a fault with him, though it made him hosts of warm friends. His funeral was one of the largest seen in Halifax for some years, and was attended by a very large proportion of his colleagues.

He leaves a widow, son and two daughters.

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THERAPEUTIC NOTES.

ANÆMIA AND ITS RELATION TO CATHARRAL INFLAMMATION

No disease is more common than chronic inflammation of the mucous membranes. Doubtless many causes contribute to the prevalence of this malady which spares neither the young nor the old, the rich nor the poor, the high nor the low. Prominent in its ætiology, however, are sudden climatic changes, the breathing of bad or dust laden air, bad hygiene in personal habits, and bad sanitary surroundings. These factors all singly or collectively tend to lower the vitality of the whole human organism, and as a consequence the cells throughout the body perform their various functions imperfectly, or not at all. The quality of the blood becomes very much lowered, with the result that tissues that have important work to perform, do not receive sufficient nourishment and so falter from actual incapacity. The red blood cells are reduced in numbers and the hemoglobin is likewise diminished. Because of the blood poverty the digestive progress is arrested, nutritive material is neither digested nor absorbed, and a general state of inanition ensues. It is not surprising under these circumstances, therefore, that chronic inflammation of the mucous membranes is produced. These highly organized structures with very important duties to perform naturally suffer from insufficient nutritional support, and the phenomena of catarrh follow as a logical result. Perversion and degeneration of the cells in turn takes place, and more or less permanent changes are produced in the identity and function of the tissues.

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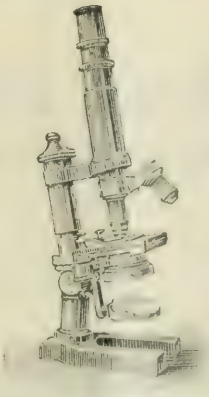

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*

POWDER BURN OF FACE.

About a year ago I was called in a hurry to relieve the awful suffering of Carl Rucker, of this city, 10 years old, who when playing with other boys exploded about two ounces of coarse black shooting powder in a little earth mound, and not being quick enough to turn away got the

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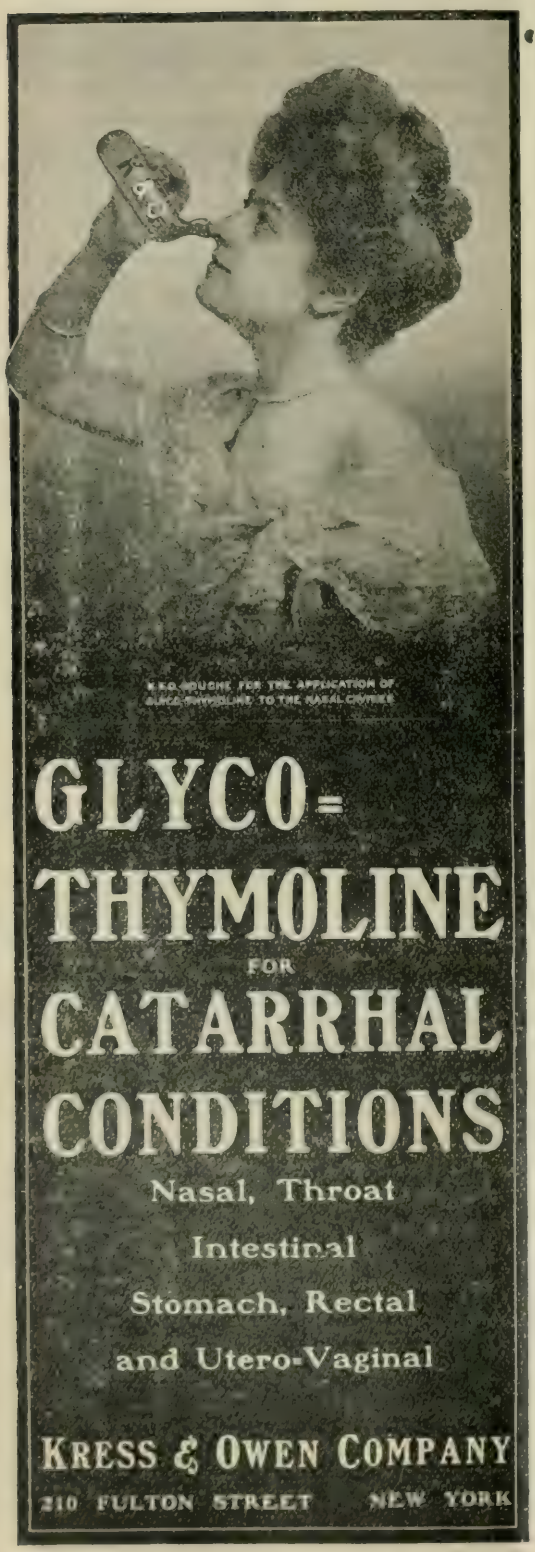

most of the discharge into his face; even the conjunctivæ of both eyes were blackened, and from the burn and subsequent inflammation shut tight ;one of the ears also got burned very badly.

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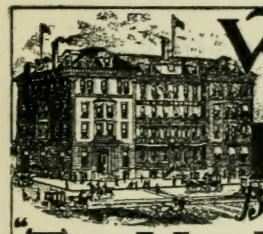
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